Statement by Bob Bergland

Secretary of Agriculture

before the

U.S. National Alcohol Fuels Commission
Honorable Birch Bayh, Cochairman
Honorable Robert Roe, Cochairman

June 19, 1980

Mr. Chairman, it is a pleasure to appear before the U.S. National Alcohol Fuels Commission.

I recall when I was a member of the House Agriculture Committee that a great deal of debate occurred over whether a commission of this general type justified the time and expense put into the effort. We could recall some commissions when few members had read even the final report. This clearly does not apply in your case. The Alcohol Fuels Commission has been at the center of policy development in a timely way. Your activities have contributed importantly to a balanced and constructive delineation of the complex issues involved with alcohol fuels.

President Carter, as you know, established a goal of 500 million gallons of annual U.S. production capacity for alcohol fuels during 1981, and he recommended a comprehensive alcohol fuels program to the Congress to assist in reaching that goal.

Our current production capacity for anhydrous ethanol has now risen to about 120 million annual gallons. The President's 1981 goal is reachable, in my view, because only now are a combination of factors critically influencing ethanol plant construction decisions coming together to make investment sufficiently profitable to offset anticipated risks. These factors include the provision of Federal tax incentives for a substantial portion of the amortized life of a plant (through 1992), continuing increases in the real price of petroleum and gasoline, some clarification of regulatory policies involving the manufacture and use of fuel ethanol, and (most recently) marked reductions in the cost of debt capital.

Given the more favorable economic situation, the Department of Agriculture recognizes two areas for which we have primary responsibility in supporting and accommodating ethanol production. These are:

1. Managing the agricultural programs and policies for which USDA has primary responsibility with sensitivity to the requirements of fuel ethanol plants for farm-produced feedstocks, and reduction of any adverse impacts on the agricultural sector and the economy generally; and

2. Use of the established State and local credit processing and servicing system of USDA to provide loan assistance for expanded distillation capacity to meet the President's production goal; USDA credit assistance will further expand, upon passage of the Energy Security Act (S.932).

In addition, the USDA in cooperation with the Department of Energy is expanding research and testing activities to find alternative crop and forestry feedstocks for ethanol production (including cellulosic feedstocks), and to improve conversion technologies enabling the use of cellulosic and other alternate feedstocks.

Before commenting upon these primary areas of activity, I want to offer several comments on the potential capacity of the agricultural sector to support alcohol fuels production using commodities rich in fermentable starches and sugars.

The kind of short-term goal represented by the President's 500 million gallon capacity target for 1981 is a sensible approach, because it emphasizes accelerated investment for quick increase in liquid fuel supplies.

It is impossible to say with precision how much fuel ethanol production can be accommodated with farm commodity feedstocks over a longer term, such as decade of the 1980's. Basically, that depends upon the amount of agricultural land available for ethanol feedstock production, and the productivity of that land.

As a rough rule of thumb, 1 billion gallons of annual ethanol production can be accommodated by an increase in grain supply in excess of the increased demand for grain for uses other than fuel ethanol of either 4 percent in acreage of average yield devoted to production of corn (about

4 million acres) or 4 percent in the productivity of currently-harvested corn and sorghum grain acreage (from about 100 to 104 bushels per acre yield for corn). This does not account for the byproduct distillers dried grain.

It is impossible to predict with confidence the exact amount of grain feedstocks that will be available for ethanol production in 1985 or 1990, at prices under which fuel ethanol is competitive with gasoline and other alternate fuels. However, today's potential investor in fuel alcohol production facilities can be confident that the agricultural production sector is flexible and adaptive to changing market conditions. Substitution in plantings can occur from soybeans to corn, for example, in order to increase the feedstock available for ethanol and to reduce total production of high-protein feeds to marketable proportions. Farmers will respond to increases in commodity prices to expand production through increased plantings and yields. The investor is justified in taking a rather optimistic view of feedstock availability.

I want to discuss in more detail each of the areas of primary USDA responsibility to accommodate fuel ethanol production: management of agricultural programs to encourage feedstock availability, and provision of credit assistance for plant construction.

I. Agricultural Feedstocks

Distillation capacity, not agricultural feedstocks, is currently the restraining factor on fuel alcohol production. At the present time, adequate supplies of corn and other fermentable commodities are available from the market at competitive prices.

Business judgments on the future availability and price of feedstocks--in conjunction with other production costs, market outlets, and other factors--will determine whether and how fast investment occurs in alcohol fuels production plants.

Agricultural commodity programs and policies can have an important impact on the market, in influencing the supply-demand balance of commodities that can be used as ethanol feedstocks. Due primarily to the unpredictability of weather conditions, our grain reserve, land diversion, and other policies are structured flexibly, so that they can help to compensate for weather-induced uncertainties in the supply-demand situation for such commodities.

The Department of Agriculture has included the production of farm commodities for alcohol feedstocks as an explicit objective of agricultural policy--alongside the production of commodities for food, feed and fiber

uses. Land set-aside and diversion programs, grain reserves, commodity price supports, and other agricultural policies will be--and are being--managed to accommodate the commodity requirements of fuel alcohol production equally with the needs of other consumers of grain and other commodities.

I want to comment briefly on how each of several elements of agricultural policy can accommodate the feedstock requirements of fuel alcohol production.

Set-Aside and Diversion Programs

Under existing law, the Secretary of Agriculture must determine annually for each of five crops a "national program acreage," which is the acreage that is expected to produce the quantity of corn, sorghum grain, barley, wheat or upland cotton that will be needed domestically and for export during the coming marketing year. The national program acreage is based upon estimates of all projected uses of the commodity--including feed, food, industrial uses, and exports, and is adjusted to allow for an increase or decrease in carryover stocks.

If the Secretary judges that farmers will plant an acreage in excess of that required to produce what is needed for the following year, including any allowance for changes in carryover stocks, he must announce a set-aside program, making target price payments to each farmer contingent upon reducing plantings by a prescribed percentage.

If the Secretary determines that plantings and production will still be larger than needed for all uses despite the announced set-aside, or if he failed to announce a set-aside by the date required in the law and found

that conditions had changed later, he may also offer cash (diversion) payments to farmers to reduce their plantings of corn, other feed grains, wheat and cotton even beyond the level specified by regulations governing a set-aside.

In determining whether or not to limit plantings of feed grains, the needs for ethanol production will be specifically included along with other uses. The feed grain decision is announced by November 15 to apply to the following crop year. During September-October 1980, and each year thereafter, the USDA will conduct a survey of ethanol plant capacity, new plants under construction, and anticipated total usage of grain for ethanol feedstocks during the upcoming crop year. On that basis the anticipated production of ethanol during the year using corn or other grains will be built into the total demand for grain, and set-aside acreage, if any, determined on that basis.

As a general rule, we would not anticipate allowing the production of grain for ethanol usage on set aside acreage, once any set aside is determined for a particular year. It is much more orderly to forego any set aside that might have been required in the absence of the ethanol usage, rather than to require the acreage to be removed from production and then allow plantings on the acreage for the specific fuel ethanol purpose. This is especially true, because the volume of corn needed for ethanol can be rather easily predicted for the following year on the basis of existing plant capacity or plants under construction in the case of small-scale plants which can be constructed in less than a year.

The existing law and programs with respect to land set-aside and diversion are therefore flexible and fully adequate to accommodate expanded ethanol production using grains and other basic commodities as feedstocks, and we intend to administer the program with sensitivity to the needs of fuel ethanol plants.

Grain Reserve Programs

The United States adopted a formal agricultural commodity reserve policy in 1977, based upon an initiative by President Carter which was subsequently incorporated by Congress into the Food and Agriculture Act of 1977.

The reserve is built upon the commodity price support loan program. It is composed of grain which farmers have placed under the price support program and have agreed to hold off the market for 3 years, or until prices reach a specified level above the loan support level. The Federal Government contracts with farmers who participate in the reserve, to pay a part of the cost of carrying the reserve through storage payments and low-interest or no-interest loans that continue until prices reach levels at which farmers may sell the grain (the release level) or must redeem the loan (the call level).

The Federal Government can limit the maximum size of the reserve by establishing a ceiling on the total amount of grain to be held at a given time and by not accepting additional grain into the reserve once that ceiling is reached.

As of June 13, 1980, grain held in the reserve totaled 1,261 million bushels (32.1 million metric tons), including 966 million bushels of corn and sorghum grain and 261 million bushels of wheat.

The Commodity Credit Corporation owns approximately 250 million bushels of corn, 150 million bushels of which was purchased this spring. Under a statute enacted in April of this year, the Secretary is authorized to sell such corn at a price not less than the reserve release price of 125 percent of loan, instead of the previous 150 percent of loan, for fuel alcohol production in plants that begin operation after January 4, 1980, and that have the ability to produce alcohol from feedstocks other than corn.

Our grain reserve is a flexible program which can be managed to provide a measure of assurance to investors in fuel alcohol plants that feedstocks will be available at relatively stable costs. We are prepared to adjust the features of the reserve and in other ways to manage the program in order to help to accommodate the feedstock requirements of alcohol plants.

By relying on the reserve and other devices available to hedge against feedstock price fluctuations (feedstock contracting, futures market hedging, etc.), the ethanol producer need not face any more pronounced economic risk than other grain processors who manufacture corn sweeteners, industrial starch, or other products from grain. It is of course exceedingly remote that, in the foreseeable future, grain will be rationed or allocated among users except by price. With continuing increases in the price of petroleum and gasoline with which fuel ethanol is competitively priced, the economic risk faced by ethanol producers from higher grain feedstock prices may be less than the risks faced by other farm commodity manufacturers.

In our view, no good purpose would be served by "designating" grain in reserve especially for alcohol fuel usage. Since grain is a fungible commodity, it is equally available to ethanol producers when held in a general reserve as if it were held in "special" reserve.

The grain reserve, based upon existing law, can be administered so as to accommodate the feedstock needs of fuel alcohol production to the full extent that the basic situation allows, and the USDA will administer the reserve with that purpose in mind.

Price Support Programs

The price support loan program, which supports the price of corn and other commodities at a prescribed minimum level, and the target price program, which provides an additional per-unit direct Federal payment to farmers if market prices are below the Federal "established" price for each commodity, provide some support to ethanol production by encouraging farmers to produce commodities for all uses on a dependable basis.

The price incentives to bring additional land into production, if needed to meet the needs of expanded fuel alcohol production, will likely come from the marketplace rather than directly from Federal price supports. If real prices of oil continue to increase substantially faster than prices for corn and other agricultural commodities, ethanol producers will be able to pay markedly higher prices for corn and still make a normal profit on their investments. This, in turn, should induce additional feed grain production to meet the needs of fuel alcohol plants along with the needs of other users.

II. Financial Assistance for Ethanol Plants

Substantial government financial incentives are already in place for the construction of fuel ethanol plants.

The exemption of gasohol sales from the 4 cents per gallon Federal gasoline excise tax (the equivalent of a 40 cents per gallon incentive on anhydrous ethanol) has been extended through 1992. An income tax credit of 40 cents per gallon for fuel alcohol greater than 190 proof, and 30 cents per gallon for 150-190 proof alcohol, is available until 1992 for ethanol produced and used for fuel on farms. These Federal tax credits and exemptions are supplemented in many States by comparable tax incentives applied under State law.

For plant construction, the 10 percent investment tax credit applies to any investment including ethanol plants, and there is also a special additional 10 percent tax credit for plant construction for ethanol and other biomass energy investments which has been extended through 1985.

With these Government incentives, it now appears that gasoline prices are high enough for investments in fuel ethanol plants to look sufficiently profitable to offset anticipated risks. We are beginning to see announcements by corn wet millers and others for construction of plants in the 50 million gallons per year range, and there is reason to expect that production capacity will rise rapidly beginning about 1981-1982.

For ethanol plants which will convert starch and sugar-rich commodities into fuel alcohol, feedstock costs rather than amortized cost of the conversion plant is the primary production cost item. This differs from plants using coal to produce liquid fuels, where the cost of the plant outweighs coal feedstock costs.

For this reason, management by the USDA of land diversion, grain reserves, and other agricultural commodity programs in order to accommodate the feed-stock requirements of fuel ethanol plants is probably more important over the long term than direct financial assistance for plant construction. Given the favorable climate for investment that is emerging, it seems reasonable to expect that the major volume of fuel ethanol production will likely come from plants that are constructed autonomous of Government lending assistance.

There is, however, a justification for providing loans and loan guarantees to a substantial number of plants in the very near term, in order that fuel ethanol can fill some of the U.S. liquid fuel gap as soon as possible. The President's goal of 500 million gallons of production capacity during 1981 can be facilitated with Federal loan assistance. This is particularly true if Federal lending assistance is targeted on smaller and intermediate size facilities, which can come on production line faster than those, for example, in the 50 million gallon per year size range.

In addition to these considerations, there is the potential of making fuel ethanol plants serve local farm fuel needs and rural employment objectives, if lending is targeted effectively to support those goals.

As of June 16, USDA had given basic approval to approximately $21.2 million in loans or loan guarantees for fuel alcohol plants the total annual alcohol capacity of which, when completed, will be about 16.3 million gallons per year. Of these totals, the FmHA Business & Industry Loan program accounts for $9.6 million in loan guarantees and about 9.7 million gallons per year in capacity. Loans or loan guarantees under FmHA Farmer Program loans totaled about $600,000 for roughly 600,000 gallons per year of capacity. The balance of the new capacity, 6 million gallons per year, is accounted for by a plant in Kansas approved under the Section 1420 program for approximately $11 million.

Under Title II of the Energy Security Act (S.932) which is nearing final Congressional enactment, the USDA will be authorized to insure and guarantee loans for ethanol facilities up to 15 million gallons annual capacity and certain categories of projects (those which use forestry feedstocks or which are sponsored by cooperatives) larger than 15 million gallons annual capacity. This new Biomass Energy Financial Assistance Program will involve the close cooperation of the Department of Energy and the Department of Agriculture. Credit assistance is expected to be available under the Energy Security Act beginning October 1 of this year, assuming final enactment as anticipated.

In order to facilitate the processing of applications for credit assistance under this emerging new program and existing authorities, I am currently consolidating all USDA financial assistance for commercial biomass energy projects in the Farmers Home Administration. The Administrator of the FmHA will be personally responsible to me, through the Assistant Secretary for Rural Development, for program operations. I am establishing a new Office of Renewable Resources with/in FmHA in the Office of the Administrator.

The Director of the Office of Renewable Resources will participate in the development and direction of alcohol fuels and other biomass energy financial assistance programs--including full participation in National office actions and approvals on loan applications for biomass fuels projects and the continuous tracking, reporting, and expediting of the processing of applications for credit and cost-sharing assistance.

The biomass energy financial assistance program under the Energy Security Act will be a separately-identified Federal program, with criteria of eligibility and other program guidelines consistent with the statute spelled out publicly to guide applicants. The processing and servicing of insured loans and loan guarantees will occur primarily through existing personnel of the Farmers Home Administration and through the existing State, district, and county offices of the agency.

In providing financial assistance, USDA recognizes a special responsibility to encourage smaller and intermediate size ethanol production facilities, including on-farm units. We frankly do not yet know what structuring of such facilities will provide the best options for use and marketing of the

fuel, and therefore have extended financial assistance to this date only on a limited basis.

One promising approach would be to target Federal financial assistance to cooperatively-owned, "community" sized plants which have excessive anhydrous production capacity and therefore could upgrade farm produced lower-proof alcohol as well as produce anhydrous alcohol directly from locally-grown unprocessed feedstocks. Potential advantages of this approach include localized processing with the capability of returning fuel ethanol to farmers for use while retaining the option to sell in the gasohol market ethanol produced in excess of farm demand; colocation of alcohol plants with existing cooperative grain-handling facilities; minimal transportation costs for locally-grown feedstocks and locally-used or marketed ethanol; and sufficient scale (contrasted to on-farm stills) to achieve efficient corn-to-ethanol conversion rates, operating costs, and recovery of high-protein byproduct feed.

This pattern of operation is, of course, untested with respect to fuel ethanol production, _per se_, and Federal loan guarantees may provide insufficient leverage to enduce investments of this type. It is, however, an approach that is being seriously explored by the USDA.

In conclusion, Mr. Chairman, it makes sense for the Nation to proceed on an optimistic basis with the production of fuel ethanol using the agricultural commodity feedstocks that must be used given the present state of technology. The USDA is fully supporting that effort.

Fortunately, we can do this with little or no statutory change in agricultural policies, since the existing commodity reserves, set-aside programs, and other farm programs are directly applicable to accommodate fuel ethanol production.

At the same time, we must continue to research, develop and demonstrate alternative feedstocks including cellulosics, and the conversion technologies necessary to use such feedstocks economically.

This concludes my prepared statement, and I would be pleased to respond to any questions.